

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace, without prejudice, all prior versions and listings of claims in the application.

LISTING OF CLAIMS:

1.-22. (Canceled)

23.-24. (Canceled)

25. (Previously Presented) A device for producing a plasma through microstructure electrode discharges, a use of the plasma including at least one of treating surfaces, chemically reacting gases, and producing light, the device comprising:

at least one guide structure, the at least one guide structure including at least one hole, wherein a plasma region includes at least one of the hole and an area adjacent to the hole;

a microwave generator, the microwave generator launching electromagnetic microwaves into the at least one guide structure to produce the plasma, the plasma being produced in the plasma region, wherein the at least one guide structure is a metallic waveguide filled with a dielectric material, the dielectric including at least one of silicon dioxide, ceramic, and Kapton; and further comprising:

an arrangement of at least two spaced metal plates, the at least two spaced metal plates forming an interstitial space filled with a dielectric material.

26. (Previously Presented) A device for producing a plasma through microstructure electrode discharges, a use of the plasma including at least one of treating surfaces, chemically reacting gases, and producing light, the device comprising:

at least one guide structure, the at least one guide structure including at least one hole, wherein a plasma region includes at least one of the hole and an area adjacent to the hole; and

a microwave generator, the microwave generator launching electromagnetic microwaves into the at least one guide structure to produce the plasma, the plasma being produced in the plasma region, wherein the at least one guide structure is an arrangement of at least two spaced metal plates, the at least two spaced metal plates forming an interstitial space filled with a dielectric material.

27. (Previously Presented) A device for producing a plasma through microstructure electrode discharges, a use of the plasma including at least one of treating surfaces, chemically reacting gases, and producing light, the device comprising:

at least one guide structure, the at least one guide structure including at least one hole, wherein a plasma region includes at least one of the hole and an area adjacent to the hole; and

a microwave generator, the microwave generator launching electromagnetic microwaves into the at least one guide structure to produce the plasma, the plasma being produced in the plasma region, wherein the at least one guide structure is an arrangement of at least two metallic strip lines, the at least two metallic strip lines running on a dielectric plate.

28. (Previously Presented) A device for producing a plasma through microstructure electrode discharges, a use of the plasma including at least one of treating surfaces, chemically reacting gases, and producing light, the device comprising:

at least one guide structure, the at least one guide structure including at least one hole, wherein a plasma region includes at least one of the hole and an area adjacent to the hole; and

a microwave generator, the microwave generator launching electromagnetic microwaves into the at least one guide structure to produce the plasma, the plasma being produced in the plasma region, wherein the at least one guide structure is at least one of planar, curved, cylindrical and coaxial, the at least one guide structure including an internal, central conductor.

29.-30. (Canceled).

31. (Canceled)

32. (Canceled).

33. (Canceled)

34. (Previously Presented) The device of claim 25, wherein the metallic waveguide has a thickness.

35. (Previously Presented) The device of claim 26, wherein the metal plates have a spacing of 10 mm to 1000 mm.

36. (Previously Presented) The device of claim 25, wherein an H_{10} mode of the microwaves is launched into the at least one guide structure.

37.-45. (Canceled)